

REMARKS

Claims 1 and 4 have been amended. New dependent claims 14 and 15 have been added. No new matter has been added to the application by virtue of the present amendment.

Accordingly, pending claims 1-15 are active in the subject application. It is respectfully requested that the pending claims 1-15 be reconsidered in view of this response.

Claim Objections

The Examiner has objected to claim 4 because of informalities.

Applicants have made appropriate correction to claim 4.

Therefore, Applicants believe the objection to claim 4 has been overcome.

Claim Rejections – 35 U.S.C. 102 (b)

The Examiner rejected claims 1-8 and 10-13 under 35 U.S.C. 102(b) as being anticipated by Hundt (U.S. Patent No. 5,283,717).

Applicants have amended claim 1 to recite the limitation "... an electrically insulating layer which electrically isolates said die and said ground plane ...". Support for Applicants' limitation can be found, for example, in paragraphs [0061], [0062] and [0063], and FIGS. 1, 2 and 3 of the present application. Referring to FIG. 1 of the present application, Applicants teach air layer 23 which electrically isolates die 20 and ground plane 22. In FIG. 2, Applicants teach mold 35 which electrically isolates die 38 and ground plane 40. In FIG. 3, Applicants teach bonding layer 57 and intervening mounting material layer 61 which electrically isolate die 60 and ground plane 65. Applicants' ground plane is electrically isolated from the die so that the electromagnetic fields created by the switching noise current can be confined to within the IC package (FIG. 4, paragraph 0064). Thus, Applicants' ground plane provides an electrical path to ground for the electromagnetic fields (i.e. EMI). In addition, since the ground plane is electrically isolated from the die, signals to and from the die are isolated from noise generated on the ground plane from the electromagnetic fields.

Hundt neither anticipates nor suggests Applicants' independent claim 1, as amended. Hundt teaches IC chip 16 on ground layer 54, where IC chip 16 is bonded to ground layer 54 by "an electrically conductive epoxy adhesive" (FIG. 5; column 6, lines 65-68). Ground layer 54 is electrically connected to lower ground layer 90 by interlevel vias 92a, 92b, 92c which go through insulating layer 14 (FIG. 5; column 8, line 66 - column 9, line 1). Thus, lower ground layer 90 is in electrical connection with IC chip 16. Since lower ground layer 90 is electrically connected to

IC chip 16, lower ground layer 90 becomes a part of the loop current path created by the switching noise of IC chip 16. Thus, lower ground layer 90 provides an electrical path for noise current resulting in electromagnetic fields (i.e. EMI) radiating from lower ground layer 90 out of the IC package. Lower ground layer 90 of Hundt does not prevent EMI from radiating out of the IC package.

Claims 2-8 and 10-13 are dependent upon independent claim 1. As discussed above, Hundt does not teach Applicants' limitation of "... an electrically insulating layer which electrically isolates said die and said ground plane ..." in claim 1, as amended.

Therefore, Applicants believe the rejections under 35 U.S.C. 102(b) have been overcome.

Claim Rejections – 35 U.S.C. 103 (a)

The Examiner rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over Hundt (U.S. Patent No. 5,283,717) in view of Hernandez et al. (U.S. Patent No. 4,734,818).

As discussed above, Hundt does not teach Applicants' limitation of "... an electrically insulating layer which electrically isolates said die and said ground plane ..." in claim 1, as amended. Claim 9 is dependant upon claim 1, as amended. Thus, the combination of Hundt with Hernandez et al. does not teach or suggest Applicants' claim 9.

For the foregoing reasons, claim 9 is neither taught nor suggested, either individually or in combination, by Hundt or Hernandez et al. and is believed to be allowable over Hundt in view of Hernandez et al.

Therefore, Applicants believe the rejections under 35 U.S.C. 103(a) have been overcome.

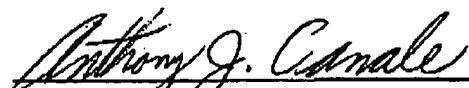
Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "Version with markings to show changes made."

In light of the foregoing amendment and remarks, all of the claims now presented are believed to be in condition for allowance, and Applicants respectfully request that the outstanding rejections be withdrawn and this application be passed to issue at an early date.

The Examiner is urged to call the undersigned at the number listed below if, in the Examiner's opinion, such a phone conference would aid in furthering the prosecution of this application.

Respectfully Submitted,
For: Fujio et al.

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JP9-2000-0229
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VERSION WITH MARKINGS TO SHOW CHANGES MADE**In the claims:**

Amend claims 1 and 4 as follows:

1. (Thrice Amended) A semiconductor integrated circuit device comprising:
 - a die connected to a ground lead and a power lead;
 - a ground plane connected to the ground lead, ~~the ground plane enclosed within an encapsulating material;~~
 - an electrically insulating layer ~~between which electrically isolates~~ said die and said ground plane; and
 - a decoupling capacitor having a first end and a second end, the first end connected to the ground ~~lead plane~~ and the second end connected to the power lead; and
wherein the ~~an~~ encapsulating material which encapsulates the die, the ground plane, the electrically insulating layer and the decoupling capacitor.
4. (Once Amended) The semiconductor integrated circuit device according to Claim 3, wherein an intra-package wiring substrate comprising wirings for a connecting path between the ground and power leads, ~~and bonding pads of the die is disposed between the die and the ground plane, and the decoupling capacitor is connected to the ground plane at one end and the power line of the intra-package wiring substrate at the other end.~~